AMENDMENTS TO THE CLAIMS

1. (Previously Presented) An electron beam apparatus comprising:

a first substrate that includes a plurality of electron-emitting devices, wherein said plurality of electron-emitting devices are provided in a vacuum container;

a second substrate that is located opposite said first substrate and that has a region irradiated by electrons emitted by said electron-emitting devices in said vacuum container;

at least one spacer that is mounted as an atmospheric-pressure resistant structure, that is sandwiched directly between said first and second substrates, or indirectly via an intermediate member between said first and second substrates, and that is extended longitudinally in a direction perpendicular to a direction in which said first and second substrates are positioned opposite each other; and

a support member, for supporting said spacer outside an electron-emitting region that is defined between a region of said first substrate wherein said electron-emitting devices are located, and a region of said second substrate that is irradiated by said electrons,

wherein said spacer has, in a vicinity of an end in a longitudinal direction, a portion shorter in a width direction of a gap between said first and second substrates rather than in another portion.

2. - 3. (Cancelled)

4. (Previously Presented) An electron beam apparatus according to claim 1, wherein said support member is fixed to said first or said second substrate, and

wherein ends of said spacer are inserted into grooves formed in said support member.

5. (Previously Presented) An electron beam apparatus according to claim 1, wherein said support member is formed of a material that is softer than said spacer.

6. (Previously Presented) An electron beam apparatus according to claim 1, wherein said support member is shorter than said spacer in a direction in which said first substrate faces said second substrate.

7. (Previously Presented) An electron beam apparatus comprising:

a first substrate that includes a plurality of electron-emitting devices, wherein said plurality of electron-emitting devices are provided in a vacuum container;

a second substrate that is located opposite said first substrate and that has a region irradiated by electrons emitted by said electron-emitting devices;

at least one spacer that is mounted as an atmospheric-pressure resistant structure that is sandwiched directly between said first and second substrates, or indirectly via an intermediate member between said first and second substrates, and that is extended longitudinally in a direction perpendicular to a direction in which said first and second substrates are positioned opposite each other; and

a support member that, outside an electron-emitting region that is defined between a region of said first substrate wherein said electron-emitting devices are located and the region on said second substrate that is irradiated by said electrons, is mounted on said substrate whereon said spacer is provided so that said support member

supports said spacer,

wherein said support member and said spacer are secured to each other, so that said spacer is straightened without warpage in a state of being secured to said support member, and a direction in parallel to a mounting surface of said substrate on which said supporting member is mounted, is in parallel to a longitudinal direction of said spacer.

8. (Previously Presented) An electron beam apparatus according to claim 7, wherein said support member is shorter than said spacer in a direction in which said first substrate faces said second substrate.

9. (Previously Presented) An electron beam apparatus comprising:

a first substrate that includes a plurality of electron-emitting devices, wherein said plurality of electron-emitting devices are provided in a vacuum container;

a second substrate that is located opposite said first substrate and that has a region irradiated by electrons emitted by said electron-emitting devices;

at least one spacer that is mounted as an atmospheric-pressure resistant structure, that is sandwiched directly between said first and second substrates, or indirectly via an intermediate member between said first and second substrates, and that is extended longitudinally in a direction perpendicular to a direction in which said first and second substrates are positioned opposite each other; and

a support member, for supporting said spacer outside an electron-emitting region that is defined between a region of said first substrate wherein said electron-emitting devices are located, and a region of said second substrate that is

irradiated by said electrons,

wherein said spacer has a thermal expansion rate that is smaller than a thermal expansion rate of said substrate.

10. (Previously Presented) An electron beam apparatus according to claim 9, wherein a difference between the thermal expansion ratio of said substrate and the thermal expansion ratio of said spacer does not exceed 5%.

11. (Original) An electron beam apparatus according to claim 9, wherein said support member supports a plurality of said spacers.

12. (Previously Presented) An electron beam apparatus according to claim 11, wherein, while said support member is fixed to said spacer, said support member is fixed, to said substrate.

13. (Original) An electron beam apparatus according to claim 1, wherein said support members support one or both longitudinal ends of said spacer.

14. (Original) An electron beam apparatus according to claim 7, wherein said support members support one or both longitudinal ends of said spacer.

15. (Original) An electron beam apparatus according to claim 9, wherein said support members support one or both longitudinal ends of said spacer.

16. (Previously Presented) An electron beam apparatus according to claim 1, wherein, in said electron-emitting region, a film that is charged less easily than a surface of a base member that serves as said spacer is deposited on a surface of said spacer that is exposed in said vacuum container.

17. (Previously Presented) An electron beam apparatus according to claim 7, wherein, in said electron-emitting region, a film that is charged less easily than a surface of a base member that serves as said spacer is deposited on a surface of said spacer that is exposed in said vacuum container.

18. (Previously Presented) An electron beam apparatus according to claim 9, wherein, in said electron-emitting region, a film that is charged less easily than a surface of a base member that serves as said spacer is deposited on a surface of said spacer that is exposed in said vacuum container.

19. (Original) An electron beam apparatus according to claim 16, 17 or 18, wherein said second substrate includes an electrode for controlling electrons that are emitted by said electron-emitting devices, and wherein said film is, at the least, electrically connected to either said first substrate or said electrode.

20. (Original) An electron beam apparatus according to claim 19, wherein said film includes a high resistance film having a sheet resistance of 10^7 Ω/□ to 10^{14} Ω/□.

21. (Original) An electron beam apparatus according to claim 20, wherein, at least in a region in which said film is electrically connected, said film includes a low resistance film having a sheet resistance equal to or smaller than 1/10 of said high resistance film, and equal to or higher than 10^7 Ω/□.

22. (Original) An electron beam apparatus according to claim 16, 17 or 18, wherein at least one part of said film has a secondary electron emission coefficient of two or smaller.

23 - 30. (Cancelled)

31. (Previously Presented) An electron beam apparatus according to claim 1, wherein said electron-emitting devices are connected by wiring laid on said first substrate, and a film formed on said spacer is electrically connected to said wiring.

32. (Previously Presented) An electron beam apparatus according to claim 7, wherein said electron-emitting devices are connected by wiring laid on said first substrate, and a film formed on said spacer is electrically connected to said first substrate by said wiring.

33. (Previously Presented) An electron beam apparatus according to claim 9, wherein said electron-emitting devices are connected by wiring laid on said first substrate, and a film formed on said spacer is electrically connected to said first substrate by said wiring.

claim 1, wherein said spacer has a section of which length in a direction along which said first and second substrates are opposed to each other is gradually made shorter in a vicinity of the end of the longitudinal direction.

53. (Previously Presented) A method of manufacturing a structure comprising a first substrate, a second substrate, and a spacer extending against an atmospheric pressure, sandwiched directly or indirectly between said first and second substrates, the method comprising the steps of:

straightening said spacer to remove warpage therefrom;

fixing said spacer to a supporting member supporting said spacer in a state such that a warpage of said spacer is straightened;

disposing said spacer fixed to said supporting member onto said first substrate; and

disposing said first and second substrates in opposition to each other.

54. (Previously Presented) The method according to claim 53, wherein said step of fixing said spacer to said supporting member is conducted so that a direction in parallel to a mounting surface of said first substrate on which said supporting member is mounted is in parallel with a longitudinal direction of said spacer disposed on said first substrate, and a warpage of said spacer in a direction along which said first and second substrates are opposed to each other is straightened.

55. (Previously Presented) A method of manufacturing a structure

34 - 44. (Cancelled)

45. (Previously Presented) An electron beam apparatus according to claim 1, wherein an image-forming member, for forming an image by irradiation of electrons that are emitted by said electron-emitting devices, is provided for said second substrate.

46. (Previously Presented) An electron beam apparatus according to claim 7, wherein an image-forming member, for forming an image by irradiation of electrons that are emitted by said electron-emitting devices, is provided for said second substrate.

47. (Previously Presented) An electron beam apparatus according to claim 9, wherein an image-forming member, for forming an image by irradiation of electrons that are emitted by said electron-emitting devices, is provided for said second substrate.

48 - 50. (Cancelled)

51. (Previously Presented) An electron beam apparatus according to claim 1, wherein said spacer is fixed at a position at an end side thereof rather than said portion.

52. (Previously Presented) An electron beam apparatus according to

comprising a first substrate, a second substrate and a spacer extending against an atmospheric pressure directly or indirectly between said first and second substrates, the method comprising the steps of:

fixing said spacer to a supporting member supporting said spacer in a state such that said spacer is weighted;

disposing said spacer fixed to said supporting member onto said first substrate; and

disposing said second substrate in opposition to said first substrate.

56. (Previously Presented) The method according to claim 55, wherein said step of fixing said spacer to said supporting member includes a process of weighting to said spacer in a direction along which said first and second substrates are opposed to each other.

57. (New) An electron beam apparatus comprising:

a first substrate provided with a plurality of electron-emitting devices, wherein the plurality of electron-emitting devices are positioned in a vacuum container;

a second substrate provided with an electrode for controlling an electron emitted from at least one of the electron-emitting devices, and provided in opposition to the first substrate; and

a spacer sandwiched directly or indirectly between the first and second substrates, and having a structure withstanding an atmospheric pressure,

wherein the spacer is provided with a first film disposed on a plane

of the spacer in opposition to either the first substrate or the electrode, and a second film which covers the first film so that the second film is disposed between the first film and either the first substrate or the electrode opposed to the first film, the first film has a smaller sheet resistance than that of the second film, and the first and second films contain a same metal element and have different compositions.

58. (New) The apparatus according to claim 57, wherein the first and second films are formed according to a vapor phase growth method, successively, within a same chamber, without releasing a vacuum state of an atmosphere within the chamber.

59. (New) The apparatus according to claim 57, wherein the sheet resistance of the first film is not larger than 1/10 of that of the second film.

60. (New) The apparatus according to claim 57, wherein the first film has a sheet resistance not larger than 10^7 Ω/□.

61. (New) The apparatus according to claim 57, wherein the second film is connected to the first substrate or the electrode to which the first film covered by the second film opposes.

62. (New) The apparatus according to claim 57, wherein each of the electron-emitting devices is wired by wirings formed on

the first substrate, the first film is disposed in opposition to the first substrate, an electrical connection between the second film covering the first film and the first substrate is formed through an electrical connection between the second film and at least one wiring.

63. (New) The apparatus according to claim 57, wherein the electrode is an acceleration electrode for accelerating the electron emitted from the at least one electron-emitting device.

64. (New) The apparatus according to claim 57, wherein a longitudinal direction of the spacer is vertical relative to a direction along which the first and second substrates oppose one another.

65. (New) The apparatus according to claim 57, wherein the second film has a smaller capability of electrical charging than does a surface of the spacer.

66. (New) The apparatus according to claim 57, wherein the second film is a high resistance film.

67. (New) The apparatus according to claim 57, further comprising an image forming member for forming an image by irradiating the second substrate with the electron emitted from the at least one electron-emitting device.